

Hebe.

		$\delta v.$	$\delta r.$			$\delta v.$	$\delta r.$
1795	May 9	+37 ^{''} .60	+0 ^{''} .01207	1847.	June 1	+30 ^{''} .65	+0 ^{''} .01458
1846	Sept. 1	+32 ^{''} .00	+0 ^{''} .01660		July 1	30 ^{''} .23	0 ^{''} .1437
	Oct. 1	32 ^{''} .09	0 ^{''} .1637		Aug. 1	29 ^{''} .76	0 ^{''} .1417
	Nov. 1	32 ^{''} .11	0 ^{''} .1613		Sept. 1	29 ^{''} .24	0 ^{''} .1397
	Dec. 1	32 ^{''} .07	0 ^{''} .1590		Oct. 1	28 ^{''} .67	0 ^{''} .1378
1847	Jan. 1	+31 ^{''} .97	+0 ^{''} .01567		Nov. 1	28 ^{''} .06	0 ^{''} .1360
	Feb. 1	31 ^{''} .82	0 ^{''} .1545		Dec. 1	27 ^{''} .41	0 ^{''} .1343
	Mar. 1	31 ^{''} .61	0 ^{''} .1522	1848.	Jan. 1	+26 ^{''} .71	+0 ^{''} .01325
	April 1	31 ^{''} .34	0 ^{''} .1501		Feb. 1	+25 ^{''} .97	+0 ^{''} .01308
	May 1	+31 ^{''} .02	+0 ^{''} .01479				

HEBE.

Observations.

WASHINGTON. Equatoreal. (Lieut. M. F. Maury, U.S.N.)

	Washington M.T.			R.A.			N.P.D.			Stars of Comp.	Mags. noted.
1847.	h	m	s	h	m	s	°	'	"		
Aug. 10	9	33	25	16	55	17.28	98	59	3.1	B. xvii. 83	
	11	8	17 39		55	28.87	99	7	44.6	—	83
	18	9	1 54		57	39.43	100	12	7.1	—	3 9; 9; 9.10
	19	8	44 14		58	4.09	21	7.9	—	3	9.10; 9.10
	20	9	7 3	16	58	31.30	100	30	21.4	—	3 9.10
	25	10	25 9	17	1	11.74	101	16	24.8	—	18 9.10; 9
	29	Star of Comparison not in Catalogues.									11.12
	30	7	49 59		4	23.83	102	0	5.6	B. xvi. 1139	9.10
Sept. 1	9	11	12		5	55.41	18	18.8	xvii. 155, 179	11	
	3	8	7 39		7	29.08	35	23.5	—	168	10; 10; 10
	4	7	42 9		8	16.72	102	43	57.9	B.A.C. 5845	10
	6	8	11 4		10	1.28	103	1	18.7	—	10.11
	10	Star of comparison not in Catalogues.									11
	13	7	59 54		16	44.81	104	0	2.8	B. xvii. 366	10.11
	14	8	55 26		17	50.44	8	29.9	—	—	11
	15	8	13 52		18	52.86	16	16.8	—	397	10.11
	16	7	37 20		19	56.47	24	6.1	—	462	10.11
	17	7	54 35		21	3.82	32	13.1	—	392	11.12
	20	7	29 20		24	31.04	104	55	30.8	B.A.C. 5949	11
	21	7	36 33		25	41.69	105	3	10.9	—	10; 10.11
	22	7	33 50	17	26	54.46	105	10	42.2	—	11.12

“These observations are corrected for refraction *only*.”

“The change of magnitude did not, for some time, suggest to me the idea of a brighter and a darker side to the planet. The first remark to this effect is

entered in my memorandum-book on September 16. It is my habit to note the magnitudes of the new planets at least once during every night's work, and sometimes, when I am not satisfied, twice or thrice. On August 20th I remarked that the magnitude should not be rated higher than the 10 or 10·9 at the highest. On August 29 many observations were made, and I find written opposite the planet, 'difficult to recognise,' 'very faint,' and again, 'planet fading very fast.' On September 1 the planet was noted as 'not larger than 11 mag. I perceive that from night to night it grows fainter.' I only observed *Iris* once on October 3, when its magnitude was noted four times independently, and each time set down as the 9th."

IRIS.

Observations.

HAMBURG.				(MM. C. and G. Rümker.)			
1847.	Hamburg M. T.			R. A.			N.P.D.
	h	m	s	°	'	"	
Oct. 10	6	42	3	299	13	32·7	Transit G. R.
11		39	1	299	27	3·0	—
15		27	8	300	24	51·0	—
16	6	24	13	300	40	19·5	—
25	5	59	4	303	14	23·1	—
26		56	23	303	32	58·6	—
Nov. 17	5	1	50·3	311	33	35·6	102° 25' 25" Mer. Circ. C. R.
18	4	59	32·3	311	58	8·0	102 20 13·2 —
28	6	46	54·0	316	16	4·5	101 20 57·6 Equatoreal.
Dec. 1	7	40	37·6	317	37	23·8	101 0 40·5 —
4	6	17	52·2	318	57	25·1	100 40 3·8 —
8	7	34	16·2	320	49	49·5	100 10 10·3 —
12	6	43	15·8	322	42	0·8	99 38 51·4 —

Elements. By Mr. Graham, of the Observatory, Markree.

Epoch 1848, Jan. 1·0, Greenwich Mean Time.

Mean Anomaly.....	330° 20' 16·70	
π	42 2 1·49	} Mean Eq.
δ	259 53 3·11	
i	5 28 22·96	} Jan. 1, 1848.
ϕ	13 10 24·39	
μ	970"·6583	Log a
		0·3752935

These represent accurately in latitude, and within 0"·2 in longitude, the middle place of the observations from which they are deduced; viz.

	G.M.T.	R.A.	N.P.D.	
1847.		h m s	° ' "	
Aug.	13·423819	19 57 29·44	103 27 28·5	South Villa.
Oct.	15·397950	20 1 48·97	104 13 16·7	Markree.
Dec.	18·290046	21 42 24·68	98 47 42·5	Markree.